Opinion and analysis from Scientific American's Board of Editors

Data Glitches Are Hazardous to Your Health

Digital medical records can easily go awry, but nobody is tracking the errors

The first visit to a new doctor usually starts with yet another recitation of medical history. You recount your peanut allergy and Grandma's hypertension but forget to mention the medication you were on two years ago. Electronic health records are designed to circumvent such problems by providing an easily shareable record of all that information in one place.

The potential for greater convenience and accuracy is so clear that federal law requires doctors and hospitals to start using electronic records by 2015. More than half of all U.S. doctors already do so, up from only 17 percent five years ago. Almost four in five hospitals have made the transition to electronic records. The federal government has spent more than \$15 billion to help promote the move.

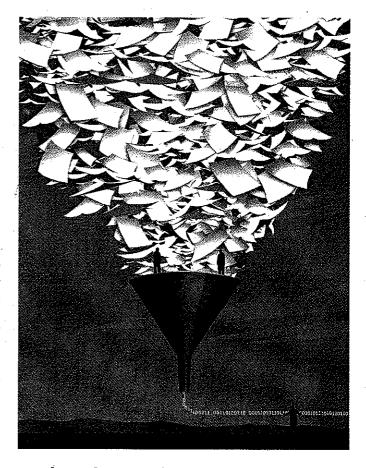
For all their promise, however, electronic medical records have their own flaws. In dozens of known cases, caregivers have entered information into the wrong chart or listed important details—such as drug dosages—incorrectly. Data sometimes disappear. In one case, a patient's allergy to penicillin was improperly entered into an electronic record. The patient later received ampicillin and nearly died of shock.

Yet we have no idea how often these errors happen or how to make them stop because no centralized body is keeping track of the mistakes. We need to get a better idea of what is going wrong so that doctors and hospitals can try to fix the problems.

To that end, the U.S. Department of Health and Human Services should create a national safety board to collect data on e-record errors. It would receive anonymized information about medical mistakes and close calls and use this information to issue guidelines for the medical industry.

The board would operate much like the National Transportation Safety Board, the independent federal agency charged with leading hundreds of investigations a year into aviation accidents, highway crashes and pipeline leaks, among other incidents. When something goes wrong in the U.S. transportation system; board investigators identify the root causes and recommend concrete actions to ensure that the problem does not happen again. Their investigations have led to safety measures such as midair-collision-avoidance technology, a national drinking age of 21 and shoulder belts in the backseats of cars.

How would a national e-record-monitoring agency work? A few smaller-scale examples can serve as guides. Pennsylvania



created a mandatory reporting system for all medical errors in June 2004. This system has uncovered thousands of e-record problems—from misreported laboratory tests to incorrect prescriptions. Almost 90 percent of these reports are close calls instead of adverse events, but still the data help to pinpoint what is causing the problem. In addition, some states in Australia also voluntarily report e-record errors, and the U.K. has been looking into a new system for its National Health Service.

The U.S. Department of Veterans Affairs, which cares for 8.76 million individuals, also tracks electronic errors on a voluntary basis. Its system provides only a partial snapshot of some trouble areas, but the agency takes its reported errors, analyzes them and, when necessary, sends out safety alerts to all users of its system.

Such systems cull data and funnel information to a centralized entity that can interpret it. And so it could be with a national e-record reporting system. Local institutions would have personnel fill out a standardized form when an error occurs, then file that report to a local and national reporting network.

The health department already faces a January deadline, set by Congress, to issue guidance on how to regulate health information technology. The department should take this opportunity to introduce a national database for electronic-record errors. Learning from these mistakes should ultimately save lives. Proper tracking can only help.

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